WHAT IS CLAIMED IS:

1.   A semiconductor device connected to a computer
having a memory, wherein the semiconductor device transfers
5 data with a plurality of peripheral devices, the
semiconductor device comprising:
       a digital interface for controlling input and output of
a digital signal;
       an analog interface for controlling input and output of
10 an analog signal; and
       a transfer controller connected to the memory via a bus
and to the digital and analog interfaces, wherein the
transfer controller controls the transfer of data between
the digital interface and the memory and between the analog
15 interface and the memory.

2.   The semiconductor device according to claim 1,
wherein the data transferred between the analog interface
and the memory is divided into plural pieces of data having
20 a predetermined data length.

3.   The semiconductor device according to claim 1,
further comprising:
       a packet insertion circuit connected to the analog
25 interface and the transfer controller, wherein the packet
insertion circuit divides the data the analog interface
receives from at least one of the peripheral devices into
plural pieces of data having a predetermined data length and
adds a packet header and trailer data to each piece of data
30 to generate a pseudo receive data packet, the transfer
controller providing the pseudo receive data packets to the
memory via the bus.

18

4. The semiconductor device according to claim 1, wherein the transfer controller divides the data the analog interface transmits to at least one of the peripheral devices into plural pieces of data having a predetermined data length and adds a packet header to each piece of data to generate a pseudo transmit data packet.

5. The semiconductor device according to claim 4, further comprising:

a packet elimination circuit connected to the transfer controller and the analog interface to eliminate the packet header from the pseudo transmit data packet.

6. The semiconductor device according to claim 5, wherein the memory stores a context program including information related with packet transfer, and the transfer controller generates the pseudo transmit data packet in accordance with the context program.

7. The semiconductor device according to claim 1, further comprising:

a plurality of channels for the transfer controller to transfer data between the digital interface and the bus, wherein at least one of the channels is allocated for transmitting data and one of the channels is allocated for receiving data when the transfer controller transfers data between the analog interface and the bus.

8. The semiconductor device according to claim 1, the digital interface is one of a plurality of digital interfaces, and the analog interface is one of a plurality of analog interfaces.

9.   A semiconductor device connected to a computer
having a memory, wherein the semiconductor device transfers
data with a plurality of peripheral devices, the
semiconductor device comprising:

5   a 1394 interface for controlling input and output of a
digital signal;

an AV interface for controlling input and output of an
analog signal;

a direct memory access controller connected to the

10   memory via a bus and to the 1394 and AV interfaces, wherein
the direct memory access controller controls the transfer of
data performed by the interfaces, the direct memory access
controller dividing the data the AV interface transmits to
at least one of the peripheral devices into plural pieces of

15   data having a predetermined data length and adding a packet
header to each piece of data to generate a pseudo transmit
data packet;

a packet elimination circuit connected to the direct
memory access controller and the AV interface to eliminate

20   the packet header from the pseudo transmit data packet when
the direct memory access controller transfers the pseudo
transmit data packet to the AV interface; and

a packet insertion circuit connected to the AV
interface and the direct memory access controller, wherein

25   the packet insertion circuit divides the data the AV
interface receives from at least one of the peripheral
devices into plural pieces of data having a predetermined
data length and adds a packet header and trailer data to
each piece of data to generate a pseudo receive data packet.

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10.   The semiconductor device according to claim 9,
further comprising:

a plurality of channels for the direct memory access

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controller to transfer data between the 1394 interface and the bus, wherein at least one of the channels is allocated for transmitting data and one of the channels is allocated for receiving data when the direct memory access controller

5   transfers data between the AV interface and the bus.

11.   The semiconductor device according to claim 9, wherein the memory stores a context program including information related with packet transfer, and the direct

10   memory access controller generates the pseudo transmit data packet in accordance with the context program.

12.   A method for controlling data transfer with a semiconductor device connected to a computer having a

15   memory, wherein the semiconductor device includes an analog interface, which transfers data with a plurality of peripheral devices, and a transfer buffer, the method comprising:
        receiving data from at least one of the peripheral

20   devices with the analog interface;
        storing the received data in the transfer buffer;
        dividing the stored data into plural pieces of data having a predetermined length;
        generating a pseudo data packet by adding a packet

25   header and trailer data to each piece of data; and
        transferring the pseudo data packet to the memory.

13.   The method according to claim 12, further comprising:

30   eliminating the packet header and the trailer data when storing the pseudo data packet in the memory.

14.   The method according to claim 12, wherein the

semiconductor device includes a digital interface for transferring data with the peripheral devices, and a plurality of channels for transferring data between the digital interface and the bus, the method further

5   comprising:

transferring the pseudo data packet to the memory from the buffer with at least one of the plurality of channels.

15.   A method for controlling data transfer with a

10   semiconductor device connected to a computer having a memory for storing data, wherein the semiconductor device includes an analog interface, which transfers data with a plurality of peripheral devices, and a transfer buffer, the method comprising:

15   reading data from the memory and dividing the read data into plural pieces of data having a predetermined length;

generating a pseudo data packet by adding a packet header to each piece of data;

transferring the pseudo data packet to the transfer

20   buffer;

eliminating the packet header from the pseudo data packet to store the data in the transfer buffer; and

reading the data from the transfer buffer and transmitting the read data to at least one of the peripheral

25   devices with the analog interface.

16.   The method according to claim 15, wherein the semiconductor device includes a digital interface for transferring data with the peripheral devices, and a

30   plurality of channels for transferring data between the digital interface and the bus, the method further comprising:

transferring the pseudo data packet to the transfer

22

buffer from the memory with at least one of the plurality of channels.

17.   A method for controlling data transfer with a semiconductor device connected to a computer having a memory, wherein the semiconductor device is connected to the memory via a system bus and includes an analog interface, a first transfer buffer, and a second transfer buffer, wherein the analog interface transfers data with a plurality of peripheral devices, the method comprising:

   receiving analog data from at least one of the peripheral devices and converting the analog data to first digital data with the analog interface;

   storing the first digital data in the first transfer buffer;

   dividing the first digital data into plural pieces of data having a predetermined length when transferring the stored first digital data to the memory;

   generating a pseudo receive data packet by adding a packet header and trailer data to each piece of the divided first digital data;

   transferring the pseudo receive data packet to the memory via the system bus;

   dividing second digital data stored in the memory into plural pieces of data having a predetermined data length;

   generating a pseudo transmit data packet by adding a packet header to each piece of the divided second digital data;

   transferring the pseudo transmit data packet to the second transfer buffer via the system bus;

   eliminating the packet header from the pseudo transmit data packet to store the second digital data in the second transfer buffer; and

converting the second digital data stored in the second transfer buffer to analog data and transferring the analog data to at least one of the peripheral devices with the analog interface.

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18. The method according to claim 17, wherein the semiconductor device includes a digital interface for transferring data with the peripheral devices and a plurality of channels to transfer data between the digital interface and the system bus, the method further comprising:

transferring the pseudo receive data packet from the first transfer buffer to the system bus with at least one of the plurality of channels.

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19. The method according to claim 17, further comprising:

eliminating the packet header and the trailer data when storing the pseudo receive data packet in the memory.

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20. The method according to claim 17, wherein the memory includes context program, said generating a pseudo transmit data packet includes generating the pseudo transmit data packet in accordance with the context program.